Patent Claims

1. Method for determining the rotational speed of a part among a plurality of components contained in a torsional vibration prone system and coupled with respect to their rotatability, in which method

- the rotational speed of a component arranged in or on a vibration node is measured

and the rotational speed of the part is calculated from the measured rotational speed and the gear ratio between the component and the part.

2. Method according to claim 1, wherein the rotational speeds of two components arranged on different sides of the vibration node are measured and the average value of the rotational speeds of the components is used in the calculation of the rotational speed of the part.

3. Method according to claim 1 for determining the input rotational speed of a continuously variable transmission (CVT) contained in a power train of a vehicle, in which method the rotational speed of at least one wheel driven by the CVT is measured and the input rotational speed is calculated from the gear ratio of the CVT as well as possibly additional gear ratios between the output of the CVT and the wheel.

4. Method according to claim 3, wherein at least one wheel rotational speed, the input rotational speed and the output rotational speed of the CVT are measured and the gear input rotational speed that has been calculated from the measured variables as well as possibly additional gear ratios between the output of the CVT and the wheel is used for controlling and/or regulating components of the power train.

5. Method according to claim 3, wherein a measured and the calculated gear input rotational speed are used at predetermined weighting to control and/or regulate components of the power train.

6. Method according to claim 5, wherein the weighting depends on the gear ratio of the CVT.

7. Method for determining the slippage of a CVT, in which method

- the rate of change of the gear ratio is determined,
- the determined rate of change is compared to a predetermined rate of change that has been calculated from operating parameters of the CVT and
- is ascertained as slippage when the determined rate of change deviates from the calculated rate of change beyond a predetermined level.

8. Method according to claim 7, wherein a maximum value of the calculated rate of change is proportional to 1/gear ratio^n, wherein n has a value between 1.5 and

2, and is ascertained as slippage when the determined rate of change exceeds the maximum value by a predetermined extent.

9. Method for determining the slippage of a CVT, in which method

- at least one value of an acoustic parameter of the CVT that changes during slippage is stored,

- the acoustic parameter is measured and

- ascertained as slippage or imminent slippage when the measured parameter approaches the stored value in a predetermined fashion.

10. Method for determining the slippage of a CVT, in which method

- temporal change of the output rotational speed of the transmission is determined and

- considered as at least imminent slippage when the temporal change of the output rotational speed exceeds a predetermined limit value.

11. Method for determining the slippage of a CVT, in which method

- the temporal change of the force acting upon at least one of the wheel brakes of a vehicle equipped with the CVT is determined and

- is considered as at least imminent slippage when the temporal change of the force exceeds a predetermined value.

12. Method according to one of the claims 7 through 11, wherein when slippage or imminent slippage is determined a correcting variable of the CVT is adjusted such that the slippage is counteracted.

13. Method for controlling a CVT with a belt apparatus wrapped around two cone pulley pairs, wherein each cone pulley pair comprises a single pressure chamber that is subject to fluid pressure for adjusting the contact pressure between the cone pulley pair and the belt apparatus as well as for changing the gear ratio of the CVT, in which method the opening cross-section of a control valve contained in the fluid connecting lines of the pressure chambers is pre-controlled as a function of a difference between the fluid pressures present in the pressure chambers that is required for a predetermined rate of change of the gear ratio.

14. Cone pulley belt transmission, containing two cone pulley pairs with two cone pulleys, respectively, the distance between which is adjustable, and a belt apparatus wrapped around the cone pulleys, a slide rail guiding one side of the belt apparatus comprising on its end facing the other side at least one rib extending parallel to the belt apparatus and increasing in thickness from the changing slide rail to the center, and a tube, arranged in the area of the center of the rib and extending approximately perpendicular to a plane in which the belt apparatus runs, for the purpose of spraying fluid at least into the spaces between the cone pulleys of the cone pulley pairs, wherein the rib on its surface facing the other side comprises a groove in

the area of its center such that fluid sprayed out of the holes formed in the pipe passing through the groove reaches directly into the spaces between the cone pulleys.

15. Cone pulley belt transmission according to claim 11, wherein fluid that is sprayed from at least one additional hole incorporated in the tube directly reaches the other side.

16. Method according to one of the claims 1 through 13, characterized in that when a slippage event has been detected an evaluation occurs with respect to the damage of the cone pulley belt transmission.

17. Method according to claim 16, characterized in that measures for further operation are initiated as a function of the evaluation.

18. Method according to claim 16 or 17, characterized in that the evaluation of the damage is performed in the form of a measurement of the output of a slippage event.